

Message

From: Hig [Ex. 6 PII; Bretwood Higman]
Sent: 4/25/2012 4:04:59 AM
To: Samuel Snyder [Ex. 6 PII, Sam Snyder]
CC: Palmer Hough/DC/USEPA/US@EPA
Subject: Re: USGS Citations
Attachments: pheuslr@usgs.gov; [Ex. 6 PII, Sam Snyder] [Ex. 6 PII] [Ex. 6 PII; Bretwood Higman]
www.groundtruthtrekking.org; www.nukaresearch.com;
<http://groundtruthtrekking.org/Reports/FaultHunt2010Terracedeformation/1/Background/>

Hello Palmer,

I'm not clear on the exact nature of the question, but these publications aren't contradictory. Reading the EBD might give you the impression they are. Whereas the EBD claims Haeussler & Waythomas 2011 states the fault is inactive, this is not the case. They provide a review of existing literature, and note that a paper from 1994 looking at all of Alaska said there was no evidence of activity in the past 1.8 million years. Absence of evidence is of course insufficient to prove that the fault is inactive, especially given that the region is very little studied.

The Koehler 2011 citation Sam lists here is really the best one to look at. It's very tentative, and not near the prospect, but it provides actual analysis of field observations suggesting activity in the past 130 thousand years, and shows little or no motion in 10-30 thousand years on one possible trace of the fault that crosses some distinct moraines.

So to summarize the 3 publications listed here:

Haeussler 2004: Evidence of activity over the last 30 million years, but no bearing on whether the fault is inactive.

Haeussler 2011: Reviews literature - no relevant new research. Generally gives the impression Haeussler thinks the fault may be inactive.

Koehler 2011: Evidence of offset in the past 130 thousand years, but no offset at one point on a possible fault trace in the last 10 to 30 thousand years.

It may be worth directly contacting Peter Haeussler and asking him to clarify his 2011 publication. Here's his email: "Peter Haeussler" <pheuslr@usgs.gov>. It would be simple to ask him whether his paper in fact states that the Lake Clark Fault is inactive.

I lay all of this out in my white paper, which will be available soon. I'm integrating comments from Peter Haeussler today.

-Hig

On Tue, Apr 24, 2012 at 5:17 PM, Samuel Snyder [Ex. 6 PII; Sam Snyder] wrote:
Palmer,

Here are the two citations you requested. I have included Hig in this email so that he might chime in for clarification or additional information.

P. J. Haeussler and C. F. Waythomas, 2011: Review of the Origin of the Braid Scarp near the Pebble Prospect, Southwestern Alaska; USGS Open-file Report 2011-1028

P.J. Haeussler, R.W. Saltus, 2004: 26 km of Offset on the Lake Clark Fault Since Late Ecocene Time; US Geological Survey Professional Paper 1709 - A.

Also of interest, R. D. Koehler, R. D. Reger, 2011: Reconnaissance Evaluation of the Lake Clark Fault, Tyonek Area, Alaska; DGGS Preliminary Interpretive Report 2011-1

In sum, the research shows that the entire question is inconclusive.

Best,
Sam

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"I shall never look upon a river without urgent consideration of the possibilities of finding fish somewhere in it." Roderick Haig-Brown

Go Green, Keep it on your screen! Think before you print!

Samuel Snyder, PhD
Alaska Conservation Foundation
Director Bristol Bay Watershed and Fisheries Protection Campaign

Ex. 6 PII; Sam Snyder

Ex. 6 PII

Hig (Bretwood Higman, PhD)

Ex. 6 PII; Bretwood Higman

Ex. 6 PII

Ground Truth Trekking (www.groundtruthtrekking.org)

Nuka Research (www.nukaresearch.com)

Geological Hazards (<http://groundtruthtrekking.org/Reports/FaultHunt2010Terracedeformation/1/Background/>)